



MAYTAG

COMMERCIAL DRYER

MDG120

INSTALLATION and

OPERATING INSTRUCTIONS

WARNING: For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT DO YOU DO IF YOU SMELL GAS

- * Do not try to light any appliance.
- * Do not touch any electrical switch: do not use any phone in your building.
- * Clear the room, building or area of all occupants.
- * Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- * If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Leave These Instructions With The Owner

Retain These Instructions in a Safe Place for Future Reference

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Instructions to be followed in the event the user smells gas must be posted in a prominent location.
The instructions to be posted shall be obtained form the Local Gas Supplier.

INSTALLATION REQUIREMENTS

The following caution should be posted near the dryer in a prominent location.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

DO NOT DRY MOPHEADS IN THE DRYER.

DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.

WARNING

YOU SHOULD CAUTION USERS OF THIS PRODUCT: NOT TO PERMIT CHILDREN TO PLAY IN, ON, WITH OR AROUND THIS EQUIPMENT, AND THAT CHILDREN SHOULD BE SUPERVISED IF NEAR DRYER(S) IN OPERATION.

CAUTION

DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

IMPORTANT

- 1) Please observe all safety precautions displayed on the equipment and/or specific in this installation instruction included with the dryer.
- 2) Dryer(s) must not be installed or stored in an area where it will be exposed to water and/or weather.
- 3) **Please post in a prominent location.** Instructions to be followed in the event the user smells gas. The information posted shall be obtained by consulting with your local gas supplier.
- 4) **The wiring diagram for the dryer is located in the front electrical control box area.**
- 5) You must disconnect and lock out the electric supply and gas supply before any covers or guards are removed from the machine to allow access for cleaning, adjusting, installation, or testing of any equipment per OSHA (Occupational Safety and Health Administration) Standards.

GENERAL INFORMATION

RECEIVING AND HANDLING

The dryer is shipped in a protective polyethylene stretch wrap cover and protective corners and top cover or an enclosed cardboard carton as a means of protection in transit. Upon delivery, the shipping carton and wooden skid should be visually inspected for shipping damage. If carton or wooden skid is damaged, inspect further **before carrier leaves**.

Dryers Damaged in Shipment

1. All dryers should be inspected upon receipt and **before** they are signed for.
2. If there is suspected damage or actual damage, the trucker's receipt should be so noted.
3. If the dryer is damaged beyond repair, it should be refused. Those dryers which were not damaged in a damaged shipment should be accepted, but the number received and number refused must be noted on the receipt.
4. If you determine that the dryer has been damaged after the trucker has left your location, you should call your local freight terminal immediately and request an inspection and freight claim form. The freight company considers this concealed damage. This type of freight claim is very difficult to get paid and becomes extremely difficult when more than a day or two passes after the freight was delivered.

It is your responsibility to file freight claims. Dryer/parts damaged in transit **cannot be** claimed under parts warranty.

5. If you need further assistance in handling the situation, please contact the distributor.

IMPORTANT: THE DRYER SHOULD BE TRANSPORTED AND HANDLED IN AN UPRIGHT POSITION AT ALL TIMES.

IMPORTANT: FOR YOUR CONVENIENCE, LOG THE FOLLOWING INFORMATION.

DATE OF PURCHASE _____

MODEL NO. MDG120 _____

DISTRIBUTOR'S NAME _____

SERIAL NUMBER(S) _____

Replacement parts can be obtained from your Maytag Commercial distributor. If you do not know where to obtain parts for your commercial multi-load dryer contact Maytag at 515-792-7000 ext. 8254. Please specify the dryer model number and serial number in addition to the description and part number, so that your order is processed accurately and promptly.

SAFETY PRECAUTIONS

WARNING: For your safety, the information in this manual **must** be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.

WARNING: The dryer must never be operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY or FIRE COULD RESULT.

1. DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
2. Purchaser/user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions **should be posted** in a prominent location.
3. **WHAT TO DO IF YOU SMELL GAS ...**
 - a. DO NOT try to light any appliance.
 - b. DO NOT touch any electrical switch.
 - c. DO NOT use any phone in your building.
 - d. Clear the room, building or area of **ALL** occupants.
 - e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - f. If you **cannot** reach your gas supplier, call the fire department.
4. Installation and service **must be** performed by a qualified installer, service agency, or the gas supplier.
5. Dryer(s) **must be** exhausted to the outdoors.
6. Although this dryer is a very versatile machine, there are some articles that, due to fabric composition or cleaning method, should not be dried in it.

WARNING: Dry only water-washed fabrics. DO NOT dry articles spotted or washed in dry cleaning solvents, a combustible detergent, or "all purpose" cleaner. **EXPLOSION COULD RESULT.**

WARNING: DO NOT dry rags or articles coated or contaminated with gasoline,

kerosene, oil, paint, or wax. **EXPLOSION COULD RESULT.**

WARNING: DO NOT DRY mop heads. Contamination by wax or flammable solvents will create a fire hazard.

WARNING: DO NOT use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubber-like materials. Drying in a heated basket (tumbler) may damage plastics or rubber and also may be a fire hazard.

7. A program **should be** established for the inspection and cleaning of the lint in the burner area, exhaust duct work and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

WARNING: The collection of lint in the burner area and exhaust duct work can create a potential fire hazard.

8. For personal safety, the dryer must be electrically grounded in accordance with local codes and/or the National Electric Code ANSI/NFPA NO. 70-LATEST EDITION, or in CANADA, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

NOTE: Failure to do so will **VOID THE WARRANTY.**

9. Under no circumstances should the dryer door switch, lint drawer switch or heat circuit safety devices ever be disabled.

WARNING: PERSONAL INJURY or FIRE COULD RESULT.

10. This dryer **is not** to be used in the presence of dry cleaning solvents or fumes.

11. Remove articles from the dryer as soon as the drying cycle has been completed.

WARNING: Articles left in the dryer after the drying and cooling cycles have been completed can create a fire hazard.

12. **READ and FOLLOW ALL CAUTION and DIRECTION LABELS ATTACHED TO DRYER.**

IMPORTANT: YOU MUST DISCONNECT THE ELECTRIC SUPPLY AND GAS SUPPLY BEFORE ANY COVERS or GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, or TESTING OF ANY EQUIPMENT per OSHA (Occupational Safety and Health Administration) STANDARDS.

SPECIFICATIONS/COMPONENT IDENTIFICATION

SPECIFICATIONS

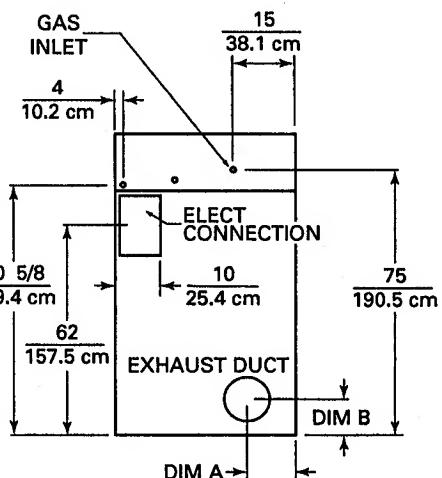
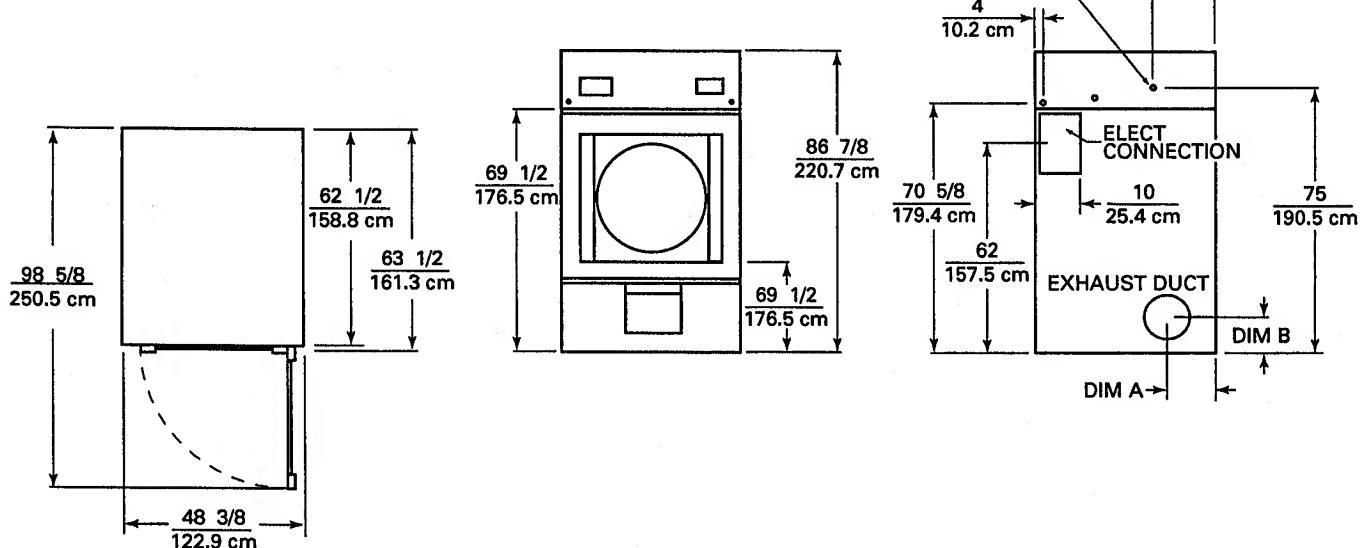
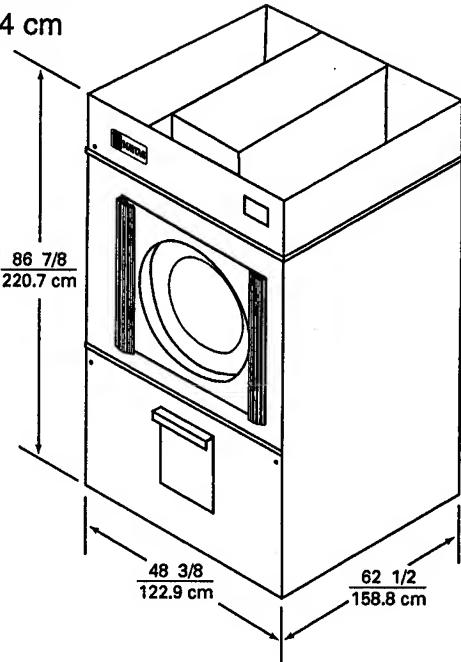
Maximum Capacity (Dry Weight)	120 lbs.	45.4 kg
Basket Diameter	44-1/2"	113 cm
Basket Depth	42-1/2"	107.9 cm
Basket Motor	3/4 HP	.560 kw
Door Opening (Diameter)	31-3/8"	79.7 cm
Basket Volume	38.2 cu.ft.	1.08 cu.m.

GAS

Voltage Available	208-460v / 3Ø
Heat Input	375,000 Btu/hr
Approx. Weight (Uncrated)	1,500 lbs.
Approx. Weight (Crated)	1,725 lbs.
Airflow	2,150 cfm
Inlet Size	1"
	60.1 cmm
	2.54 cm

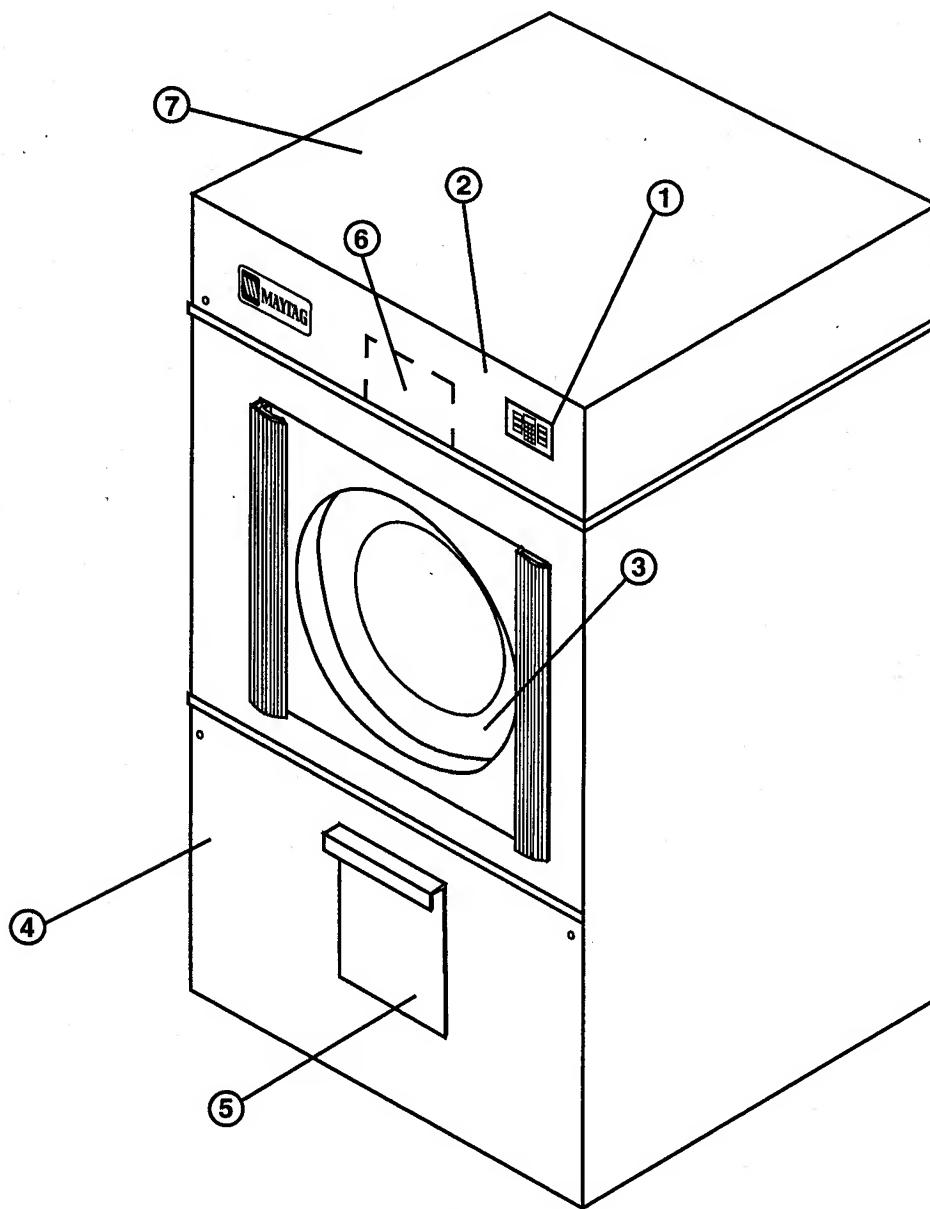
NOTE: WE RESERVE THE RIGHT TO MAKE CHANGES IN SPECIFICATIONS AT ANY TIME, WITHOUT NOTICE or OBLIGATION.

	EXHAUST DUCT DIA.	DIM. "A"	DIM. "B"
GAS	12" 30.5 cm	11 1/4" 28.6 cm	9 1/2" 24.1 cm



COMPONENT IDENTIFICATION

DRYER FRONT VIEW

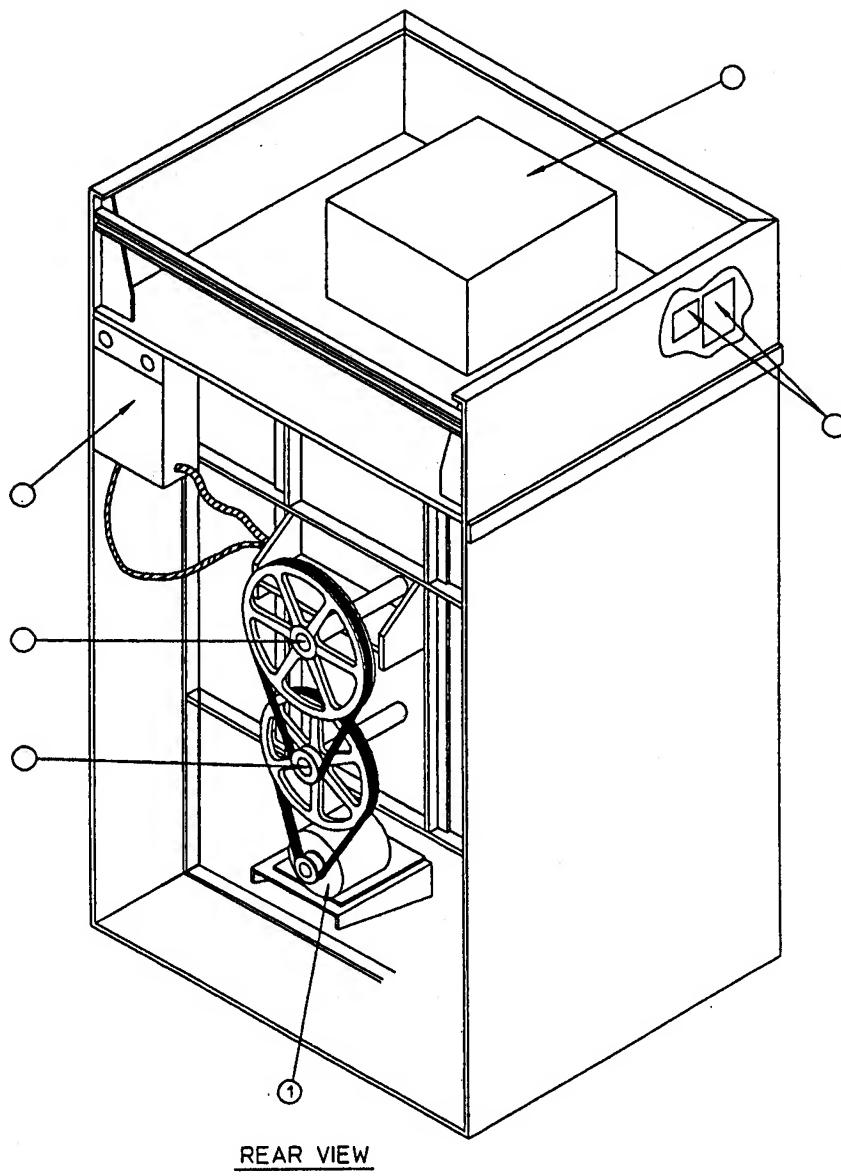


Illus. No. Description

1. Microprocessor Control/Keyboard Panel Assembly (Controls)
2. Control (Top Access) Door Assembly
3. Main Door Assembly
4. Lint Door Assembly
5. Lint Drawer
6. Wire Diagram (Located Behind Control Door)
7. Top Console (Module) Assembly

COMPONENT IDENTIFICATION

DRYER REAR VIEW



Illus. No.	Description
1.	Basket (Drive) Motor Assembly
2.	Blower Motor Mount Assembly
3.	Impellor (fan/blower) Assembly
4.	Idler Bearing Mount Assembly
5.	Tumbler Bearing Mount Assembly
6*.	Electric Service Relay Box
7.	Heating Unit
8.	Data Label and Installation Label

*Electric service connections are made in this box.

INSTALLATION PROCEDURES

Installation should be performed by competent technicians in accordance with local and state codes. In the absence of these codes, installation must conform to applicable AMERICAN NATIONAL STANDARDS:

ANSI Z223.1 - Latest Edition
(National Fuel Gas Code) and/or
ANSI/NFPA No. 70 - Latest Edition
(National Electric Code)

In Canada, the Canadian Installation Codes
CAN/CGA-B149.1 - M91 (Natural Gas) or CAN/
CGA-B149.2 - M91 (L. P. Gas) or Latest Edition.

UNPACKING/SETTING UP

Remove shipping carton, or polyethylene cover and protective shipping corners from dryer.

IMPORTANT: Dryer must be transported and handled in an upright position at all times.

The dryer can be moved to its final location while still attached to the skid or with the skid removed. To unskid the dryer, locate and remove the four (4) lag bolts securing the base of the dryer to the wooden skid. Two (2) are located at the rear of the base, and two (2) are located in the lint chamber bottom. Once the bolts are removed, slide the dryer off the skid. To remove the two (2) lag bolts located in the lint chamber area, remove lint drawer and the

three (3) Phillips head screws securing lint door in place.

Once the bolts and screws are removed, the dryer can be removed from the skid.

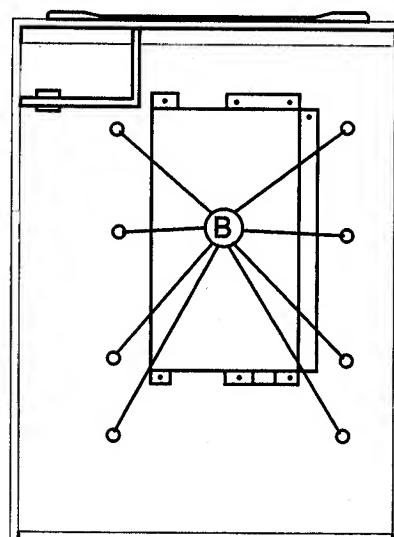
LEVELING DRYER

1. This unit does not have leveling legs. To level the dryer, place 4-inch square metal shims or other suitable material under the base pads.
2. If more headroom is needed when moving dryer into position, the top console (module) may be removed.

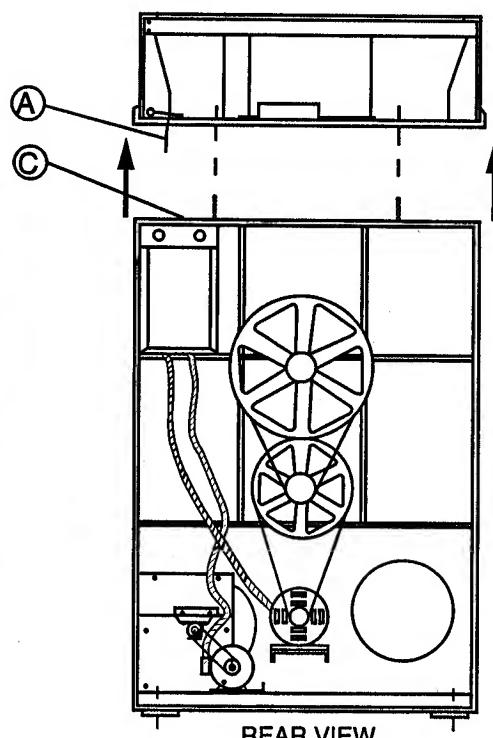
To remove top console (module):

- 1) Disconnect the ground wire (A) at the Rear Upper Left Hand Corner of Dryer.
- 2) Remove the six (6) sets of nuts and washers (B) holding the console (module) to base.
- 3) Open the control door/control panel and disconnect the white 15-pin plug connector (C in the illustration below) located in the base of the control box.
- 4) Disconnect white plug connector located outside backside of the control box (provides power to heat circuit).
- 5) Lift the console (module) off of the dryer base.

IMPORTANT: The dryer must be transported and handled in an upright position at all times.



TOP VIEW



REAR VIEW

LOCATION OF DRYER

Before installing the dryer, be sure the location conforms to local codes and ordinances. In absence of such codes or ordinances location **must conform** with the National Fuel Gas Code ANSI Z223.1-LATEST EDITION or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.

1. The dryer **must be** installed on a sound, level floor capable of supporting its weight. It is recommended that carpeting be removed from the floor area on which the dryer is to rest.
2. The dryer **must not be** installed or stored in an area where it will be exposed to water and/or weather.
3. This dryer is for use in noncombustible locations.
4. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply**).
5. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements**).
6. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclo-**

sure Requirements).

7. Dryer **must be** exhausted to the outdoors (refer to **Exhaust Requirements**).
8. Dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements**).

DRYER ENCLOSURE REQUIREMENTS

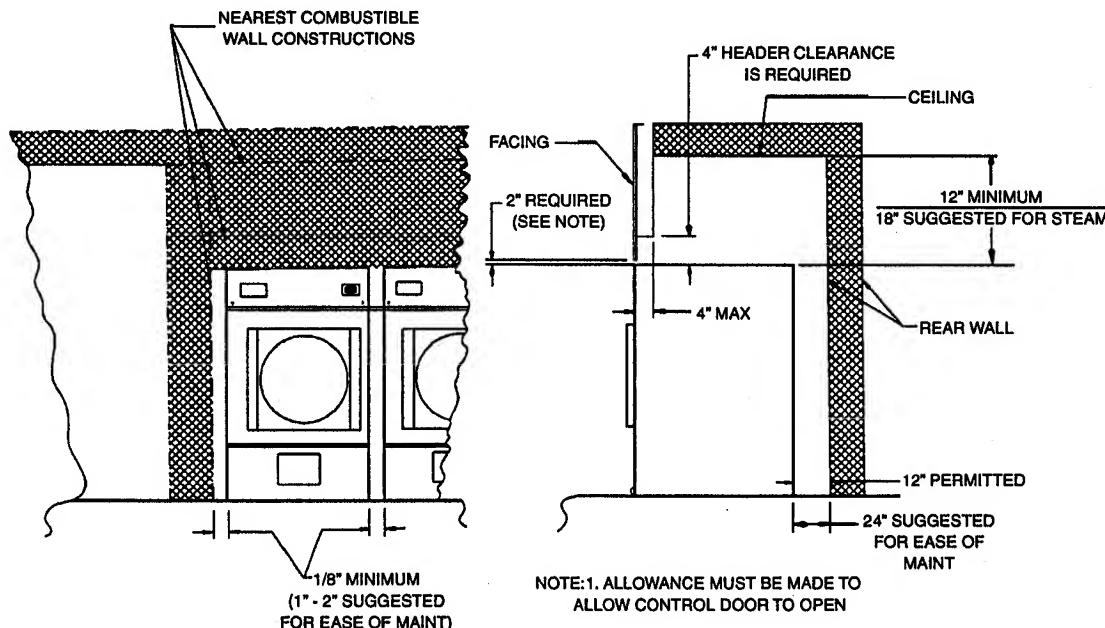
The clearance between the header and the dryer **must be** a minimum of 4 inches and must not extend more than 4 inches to the rear of the dryer front. The bulkhead facing must not be closed in all the way to the top of the dryer. A 2-inch clearance is required.

NOTE: Bulkhead facing **should not** be installed until after dryer is in place. Ceiling area **must be** located a minimum of 12 inches above the top of the dryer.

NOTE: When fire sprinkler systems are located above the dryers, a minimum of 18-inches above the dryer console (module) is suggested.

Dryers may be positioned side wall to side wall however, 1 or 2 inches is suggested between dryers (or wall) for ease of installation and maintenance.

Allowances must be made for the opening and closing of the control and lint doors.



FRESH AIR SUPPLY

When the dryer is operating, it draws in room air, heats it, passes this air through the tumbler and exhausts it out of the building. Therefore, the room air must be continually replenished from the outdoors.

If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch "fluttering" problems on gas dryers may result, and you also could have premature motor failure from overheating.

Air supply (make-up air) must be given careful consideration to assure proper performance of each dryer. An unrestricted source of air is necessary for each dryer. An air flow of 2,150 CFM (cubic feet per minute) must be supplied. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of three (3) square feet is required for each dryer.

If registers or louvers are installed over the openings, then the area must be increased by approximately 33 percent. Make-up air openings **should not** be located in an area directly near where exhaust vents exit the building.

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they must be set up in such a manner that the make-up air is distributed equally to the dryers.

Example: For a bank of six (6) gas dryers, two (2) openings measuring 3 feet by 3 feet (18 square feet) is acceptable.

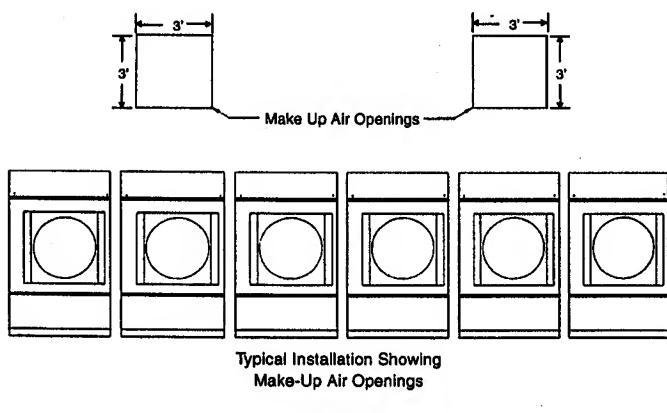


Figure 6

Allowances must be made for remote or constructing passageways or where dryers are located at excessive altitudes or predominantly low pressure areas.

IMPORTANT: Make-up air must be provided from a source free of dry cleaning fumes. Make-up air that is contaminated by dry cleaning fumes will result in irreparable damage to motors and other dryer components

NOTE: Component failure due to dry cleaning fumes voids warranty.

EXHAUST REQUIREMENTS

Exhaust duct work should be designed and installed by a competent technician. Improperly sized duct work will create excessive back pressure which will result in slow drying, increase use of energy, and shutdown of the burner by the air flow (sail) switch, burner hi-limit or lint chamber hi-heat protector thermostat.

CAUTION: Dryer must be exhausted to the outdoors.

CAUTION: *Improperly sized or installed exhaust duct work can create a potential fire hazard.*

NOTE: When a dryer is exhausted separately, it is recommended that a back draft damper be installed.

NOTE: When a dryer is exhausted into a common exhaust line, each dryer must be supplied with a back draft damper.

ALL duct work **should be** smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** duct work joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust duct work for periodic inspection and clean-out of lint from the duct work.

IMPORTANT: Exhaust back pressure measured by a manometer at each basket exhaust duct area **should not exceed** 0.3 inches of water column.

NOTE: Where the exhaust duct work passes through a wall, ceiling, or roof made of com-

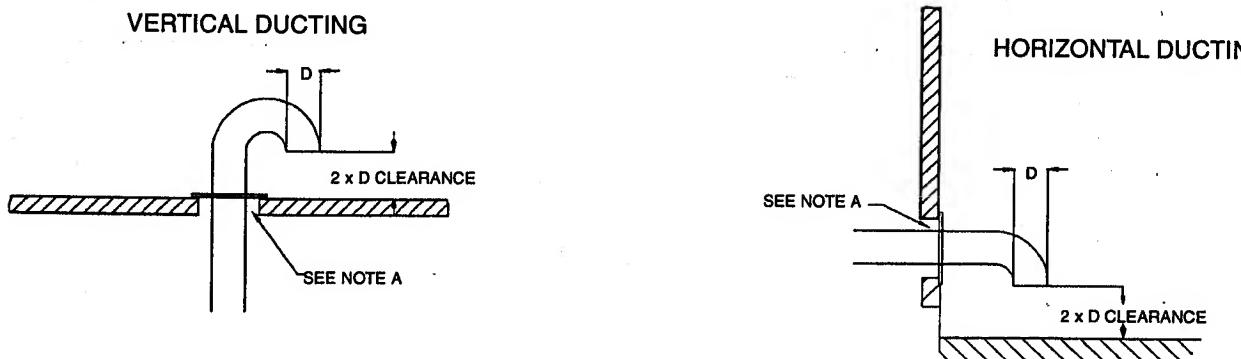
bustible materials, the opening must be 2 inches larger (all the way around) than the duct. The duct **must be** centered within this opening.

OUTSIDE DUCT WORK PROTECTION

To protect the outside end of horizontal duct work from the weather, a 90° elbow bent downward **should be** installed where the exhaust

exits the building. If the exhaust duct work travels vertically up through the roof, it should be protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and the nearest obstruction.

IMPORTANT: DO NOT use screens or caps on the outside of opening of exhaust duct work.



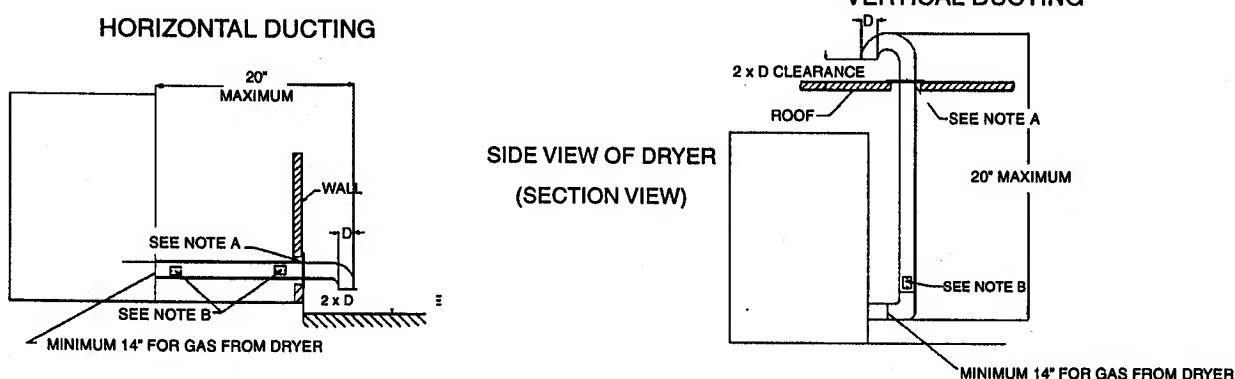
NOTE "A" - Opening must be two (2) inches larger than duct (all the way around). The duct must be centered within this opening.

SINGLE DRYER VENTING

Where possible, it is suggested to provide a separate exhaust duct for each dryer. The exhaust duct **should be** laid out in such a way that the duct work travels as directly as possible to the outdoors with as few turns as possible. It is suggested that the use of 90° turns in ducting be avoided; use 30° and/or 45° angles instead. The shape of the exhaust duct work is not critical so long as the minimum cross section area is provided.

Minimum duct size for a gas dryer is 14-inches for a round duct or 12.50" x 12.50" for a square duct. Duct size **must not** be reduced anywhere down stream of dryer.

It is suggested that the duct work from each dryer (minimum 14 inches) not exceed 20 feet with no more than two (2) elbows (excluding dryer connections). If the duct work exceeds 20 feet or has numerous elbows, the cross section area of the duct work **must be** increased in proportion to the length and number of elbows in it. In calculating duct size, the cross section area of a square or rectangular duct **must be** increased by 20 percent for each additional 20 feet. The diameter of a round exhaust duct **should be** increased 10 percent for each additional 15 feet. Each 90° elbow is equivalent to an additional 30 feet, and each 45° elbow is equivalent to an additional 15 feet.



NOTE "A" - Opening must be two (2) inches larger than duct (all the way around). The duct must be centered within this opening.

NOTE "B" - Inspection doors should be installed at strategic points for periodic inspection and cleaning.

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work runs cannot exceed twenty (20) feet more than the original limitations of twenty (20) feet with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional heating venting air conditioning (HVAC) firm **should be** consulted for proper venting information.

IMPORTANT: DO NOT use screens, louvers, or caps on the outside of opening of exhaust duct work

MULTIPLE DRYER (COMMON) VENTING

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers may be channeled into a "common main duct." The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of air flow and **should be** spaced at least 48^{3/8} inches apart. The main duct **should be** tapered, with the diameter increasing before each individual 14-inch (minimum) duct is added.

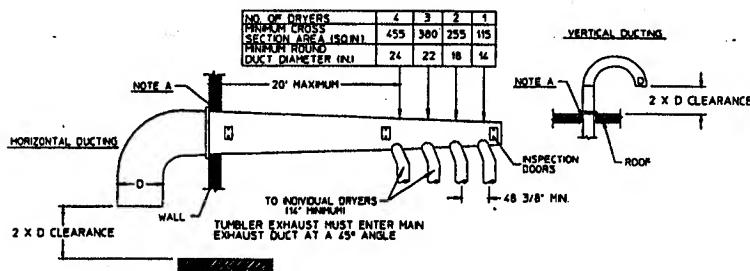
IMPORTANT: The MDG120 is not provided with a back draft damper. When exhausted into a multiple (common) exhaust line, a back draft damper **must be** installed at each dryer duct.

IMPORTANT: No more than four (4) dryers **should be** connected to one main common duct.

The main duct may be any shape or cross sectional area, so long as the minimum cross section area is provided. See the illustrations showing the minimum cross section area for multiple dryer round or square venting. These figures **must be** increased 10 square inches when rectangular main ducting is used, and the ratio of duct width to depth should not be greater than 3-1/2 to 1. These figures **must be** increased in proportion if the main duct run to the last dryer to where it exhausts to the outdoors is unusually long (over 20 feet) or has numerous elbows (more than two [2]) in it. In calculating duct work size, the cross section area of a square or rectangular duct **must be** increased 20 percent for each additional 20 feet. The diameter of a round exhaust must be increased 10 percent for each additional 20 feet.

Each 90° elbow is equivalent to an additional 30 feet and each 45° elbow is equivalent to an additional 15 feet.

MULTIPLE DRYER VENTING WITH 14" DIAMETER (2,150 CFM) EXHAUST CONNECTIONS AT COMMON DUCT



IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND
DUCT = $.785 \times D^2$ WHERE D = DIAMETER
OF THE DUCT

CROSS SECTIONAL AREA OF A RECTANGULAR
DUCT = W X H WHERE W = WIDTH AND H =
HEIGHT

NOTE A: OPENING MUST BE TWO (2) INCHES LARGER THAN DUCT (ALL THE WAY AROUND) THE DUCT MUST BE CENTERED WITHIN THIS OPENING

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work runs cannot exceed twenty (20) feet more than the original limitations of twenty (20) feet with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional HVAC firm should be consulted for proper venting information.

IMPORTANT: Exhaust back pressure measured by a manometer at each dryer exhaust duct area **should not** exceed 0.3 inches of water column.

NOTE: Where the exhaust passes through a wall, ceiling, or roof made of combustible materials, the opening **must be** 2-inches larger (all the way around) than the duct. The duct **must be** centered within this opening.

IMPORTANT: DO NOT use screens, louvers, or caps on the outside opening of exhaust duct work.

ELECTRICAL INFORMATION

1. Electrical Requirements

It is your responsibility to have all electrical connections made by a properly licensed and competent electrician to assure that the electrical installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, all electrical connections, material and workmanship must conform to the applicable requirements of the National Electric Code ANSI/NFPA No. 70 (Latest Edition), or in Canada, the Canadian Electrical Codes, Parts 1 & 2 CSA C22.1 - 1990 or Latest Edition.

Each dryer **should be** connected to an independently protected branch circuit. The dryer **must be** connected with copper wire only. **DO NOT** use aluminum wire which could cause a fire hazard. The copper conductor wire/cable **must be** of proper ampacity and insulation in accordance with electric codes for making **ALL** service connections.

NOTE: Wiring diagrams are affixed to the inside at the top front control door and to the rear upper back guard/panel.

ELECTRICAL SERVICE SPECIFICATIONS

Reversing, 3-Phase Motor

NOTES:

- A. Fuse ratings are dual element-time delay-current limiting, class RK1 or RK5 **ONLY**.
- B. Circuit breakers are thermal magnetic (industrial) type **ONLY**. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.
- C. Circuit breakers for 3-phase dryers **must be** 3-pole type.

Service Voltage	230
Phase	3Ø
Wire Service	3
Approx. AMP Draw (60 Hz)	13
Minimum Wire Service	12
Fusing (Dual Element Time Delay)	20
Circuit Breaker	25

IMPORTANT: The dryer **must be** connected to the electrical supply shown on the data label that is affixed to the back of the dryer, at the upper right hand corner.

WARNING: 208VAC and 230/240 VOLTS ARE NOT THE SAME. Any damage done to dryer components due to improper voltage connections will automatically **VOID THE WARRANTY**.

IMPORTANT: Failure to comply with these codes ordinances, and/or the requirement stipulated in this manual can result in personal injury or component failure.

NOTE: Component failure due to improper installation **voids the warranty**.

It is recommended that a separate circuit serving each tumbler be provided. The dryer must be connected with copper wire only. Do not use aluminum wire which could cause a fire hazard.

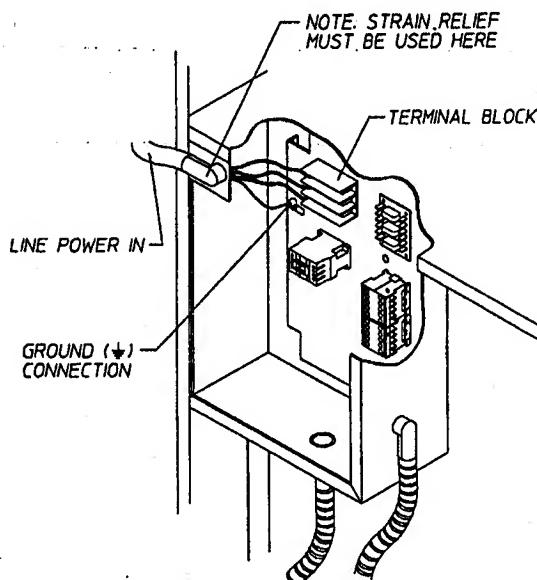
NOTE: The use of aluminum wire voids the warranty.

ELECTRICAL CONNECTIONS

NOTE: A wiring diagram is included with each dryer and is affixed to the rear, upper right guard/panel of the dryer.

The only electrical input connections to the dryer are the 3-phase (3Ø) power leads (L1, L2, and L3), GROUND, and in the case of 4 wire service, the neutral. Providing local codes permit, power connections to the dryer can be made by the use of a flexible underwriters laboratory listed cord/pigtail (wire size **must conform** to rating of the dryer), or the dryer can be hard wired directly to the service breaker. In **ALL** cases, a strain relief **must be** used where the wire(s) enter the dryer electrical service (relay) box.

These electrical connections are made at the terminal block located in the electric service/relay box at the rear, upper left hand corner of the dryer. To gain access into this service box, the service cover (upper back guard) **must be removed**.



GROUNDING

Grounding (earth) connections **must be provided** and installed in accordance with state and local codes. In the absence of these codes, grounding **must conform** to applicable requirements of the National Electric Code ANSI/NFPA NO. 70-LATEST EDITION, or in CANADA, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. The ground connection may be to a proven earth ground at the location service panel.

NOTE: A grounding connection (terminal lug) is provided in the dryer's electrical service/relay box at the rear.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a grounded cold water pipe. **DO NOT** ground to a gas or hot water pipe. The grounded cold water pipe must have metal to metal connections all the way to electrical ground. If there are any non-metallic interruptions, such as a meter, pump, plastic, rubber, or other insulating connectors, they **must be** jumped out with no. 4 copper wire and securely clamped to bare metal at both ends.

IMPORTANT: For personal safety and proper

operation, the dryer **must be grounded**. For proper operation of the microprocessor (computer), an earth (zero) ground **is required**.

NOTE: Grounding via metallic electrical conduit (pipe) **is not recommended**.

GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to assure that the gas plumbing installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, **ALL** plumbing connections, material, and workmanship **must conform** to the applicable requirements of the National Fuel Gas Code ANSI Z223.1 LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual, can result in personal injury and improper operation of the dryer.

The dryer and its individual shut-off valve **must be disconnected** from the gas supply piping system during any pressure testing of that system at test pressures in excess of $\frac{1}{2}$ psig (3.5 kPa). The dryer **must be isolated** from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than $\frac{1}{2}$ psig (3.5 kPa).

IMPORTANT: Failure to isolate or disconnect dryer from supply as noted can cause irreparable damage to the gas valves **VOIDING THE WARRANTY**.

WARNING: FIRE or EXPLOSION COULD RESULT.

GAS SUPPLY

The gas dryer installation must meet the American National Standard: National Fuel Gas Code Z223.1 - LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION, as well as local codes and ordinances and **must be done** by a qualified professional.

NOTE: Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer **must be** connected to the type of heat/gas indicated on the dryer data label affixed to the back of the dryer at the upper right hand corner. If this information does not agree with the type of gas available, **do not** operate the dryer. Contact the distributor who sold the dryer.

IMPORTANT: Any burner changes or conversions **must be** made by a qualified professional.

The input ratings shown on the dryer data label are for elevations of up to 2,000 feet, unless elevation requirements of over 2,000 feet were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet are made by changing each burner orifice. If this conversion is necessary, contact the distributor who sold the dryer.

TECHNICAL GAS DATA

Gas Specifications

	Type of Gas		L.P. Conversion Kit Part Number
	Natural	Liquid Propane	
Manifold Pressure*	3.5-4.0 inches W.C.	10.5 - 11.0 Inches W.C.	
Inline Pressure	6.0 to 12.0 inches W.C.	11.0 Inches W.C.	

* Measured at gas valve pressure tap when the gas valve is on

GAS Connections:

Inlet connection	1-inch N.P.T.
Inlet supply size	1-inch N.P.T. (minimum)
Btu/hr input (per dryer)	375,000

Natural Gas

Regulation is controlled by the dryer's gas valve's internal regulator. Incoming supply pressure **must be** consistent between a minimum of 6.0 inches and a maximum of 12.0 inches water column pressure.

Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas have the gas valve's internal pressure regulator blocked open so that the gas pressure **must be** regu-

lated upstream of the dryer. The pressure measured at each gas valve pressure tap **must be** a consistent 11.0 inches water column. There is no regulator or regulation provided in an L.P. dryer. The water column pressure **must be** regulated at the source (L.P. tank) or an external regulator **must be** added to each dryer.

Model Number	BTU Per Hour Rating	Type of Gas			L.P. Conversion Kit Part Number			
		Natural		Liquid Propane				
MDG120	375,000	3	# 4	140832	3	# 30	140819	880886

*D.M.S. (Drill Material Size) equivalents are as follows:

Natural Gas #4 = .2090"

Liquid Propane Gas #30 = .1285"

PIPING/CONNECTIONS

ALL components/materials **must conform** to National Fuel Gas Code Specifications, or in CANADA, the Canadian Installation Codes (for General Installation and Gas Plumbing). It is important that gas pressure regulators meet applicable pressure requirements and that gas meters be rated for the total amount of all the appliance Btu's being supplied.

The dryer is provided with a 1-inch N.P.T. inlet pipe connection extending out the back area of the burner box. The minimum pipe size connection (supply line) to the dryer is 1-inch N.P.T. For ease of servicing, the gas supply line of each dryer **must have** its own shut-off valve.

The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of L.P. gas, the supply tank, other gas-operated appliances on the same supply line, etc. Specific information regarding supply line size **should be** determined by the gas supplier.

NOTE: Undersized gas supply piping can create a low or inconsistent pressure which will result in erratic operation of the burner ignition system.

Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 1-inch pipe gas loop be installed in the supply line serving a bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if the (natural) gas pressure

exceeds 12.0 inches of water column pressure.

IMPORTANT: A water column pressure of 3.5 to 4.0 inches for natural gas and 11.0 inches for L.P. dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.

A $\frac{1}{8}$ inch N.P.T. plugged tap, accessible for a test gauge connection, **must be** installed in the main gas supply line immediately upstream of each dryer.

IMPORTANT: Pipe joint compounds that resist the action of natural and L.P. gases **must be** used.

IMPORTANT: Test ALL connections for leaks by brushing on a soapy water solution (liquid detergent works well).

WARNING: NEVER TEST FOR GAS LEAKS WITH A FLAME!!!

ALL components/materials must conform to

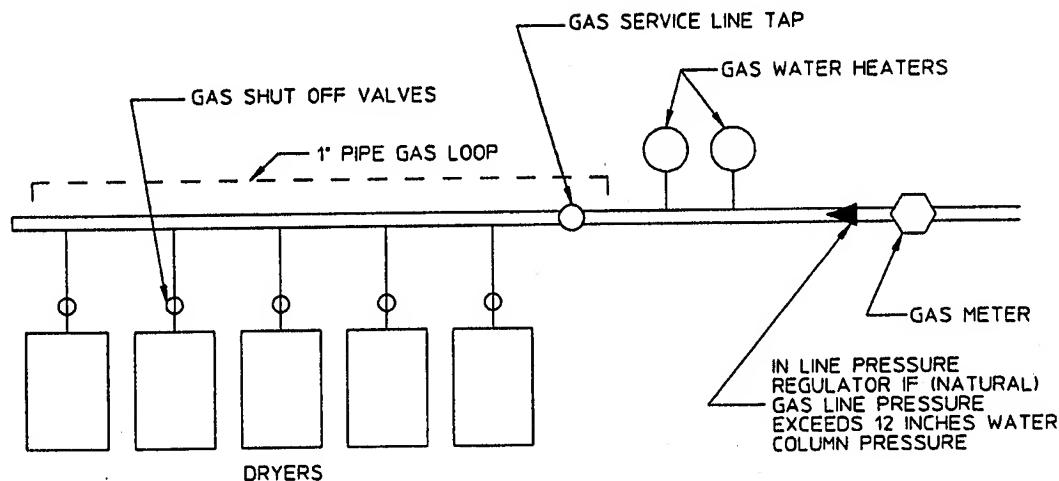
National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.

It is important that gas pressure regulators meet applicable pressure requirements, and that gas meters be rated for the total amount of appliance Btu's being supplied.

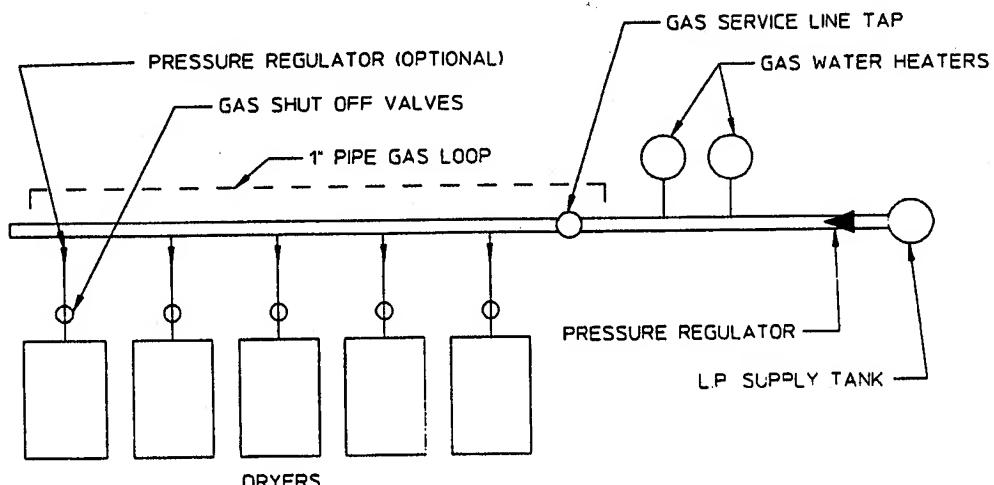
IMPORTANT: The dryer and its individual shut-off valve **must be** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5kPa).

NOTE: The dryer **must be** isolated from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5 kPa).

TYPICAL NATURAL GAS INSTALLATION



TYPICAL NATURAL GAS INSTALLATION



OPERATION/START-UP

PREPARATION

The following items should be checked before attempting to operate the dryer:

1. Read and follow **ALL "CAUTION", "WARNING", and "DIRECTION"** labels attached to the dryer.
2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label located in the front top console area.
3. **GAS MODELS** - check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.
4. **GAS MODELS** - the sail switch damper assembly was installed and preadjusted at the factory prior to shipping. However, each sail switch adjustment must be checked to assure that this important safety control is functioning.
5. **GAS MODELS** - be sure that ALL gas shut-off valves are in the open position.
6. Be sure **ALL** back panels (guards) and electric box covers have been replaced.
7. Check **ALL** service doors to assure that they are closed and secured in place.
8. Be sure lint drawer is securely in place.

NOTE: LINT DRAWER MUST BE ALL THE WAY IN PLACE TO ACTIVATE SAFETY SWITCH. OTHERWISE THE DRYER WILL NOT START.

9. Rotate the basket (tumbler/drum) by hand to be sure it moves freely.
10. Check bolts, nuts, screws, terminals, and fittings for security.
11. Check tumbler bearing set screws to insure they are **ALL** tight.

PREOPERATIONAL TESTS

ALL dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test **should be** performed before the dryer is publicly used. It is possible that adjustments have changed in transit or due to marginal location (installation) conditions.

1. Turn on electric power to the dryer.

2. Make sure the main door is closed and the lint drawer is securely in place.
3. Refer to the Operating Instructions for starting your particular model dryer.
4. Check to insure that the basket (tumbler) starts in the clockwise (CW) direction. Additionally, check the direction of the blower motor impellor (fan) to insure that impellor (fan) rotates in the clockwise (CW) direction as viewed from the front. If it is, the phasing is correct. If the phasing is incorrect, reverse two (2) of the leads at L1, L2, or L3 of the power supply connections made to the dryer.

IMPORTANT: Dryer blower motor impellor/fan as viewed from the front must turn in the clockwise (CW) direction, otherwise dryer efficiency will drastically be reduced and premature component failure can result.

5. HEAT CIRCUIT OPERATIONAL TEST

a. Gas Models

- 1) When the dryer is first started (during initial start-up), the burner has a tendency not to ignite on the first attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for this air to be purged from the lines.
- 2) The dryer is equipped with a direct spark ignition (DSI) system which has internal diagnostics. If ignition is not established after the first attempt, the heat circuit DSI module will lock out until it is manually reset. To reset the DSI system, open and close main door and restart dryer (press the "ENTER/START" key).

NOTE: During the purging period, check to be sure that **ALL** gas shut-off valves are open.

- 3) Once ignition is established, a gas pressure test **should be** taken at the gas valve pressure tap of each dryer to assure that the water column pressure is correct and consistent.

NOTE: Water column pressure requirements (measured at the gas valve pressure tap) . . .

NATURAL GAS 3.5 - 4.0 INCHES W.C.

L.P. GAS 10.5 - 11.0 INCHES W.C.

IMPORTANT: There is no regulator provided in an L.P. dryer. The water column pressure **must be** regulated at the source (L.P. tank) or an external regulator **must be** added to each dryer.

6. Make a complete operational check of ALL safety-related circuits (i.e., lint drawer switch, and sail switch on gas models).

NOTE: To check for proper sail switch operation, open the main door and while holding main door switch plunger in, start dryer. Dryer should start but heat circuit **should not** be activated (on). If heat (burner) does activate, shut dryer off and make necessary adjustments.

7. A reversing basket (tumbler) dryer **should never** be operated with less than a 60 lb. load (dry weight). The size of the load will affect the coast-down and dwell (stop) times. The basket (tumbler) must come to a complete stop before starting in opposite direction.

a. Microprocessor (computer) Dryer Models

- 1) Spin and stop times **are not** adjustable in the Automatic Mode and have been preprogrammed into the microprocessor controller (computer) for 120-seconds spin time and a 5-second dwell (stop) time.
 - 2) Spin and stop times **are** adjustable in the Manual (timed) Mode.
8. Each dryer should be operated through one complete cycle to assure that no further adjustments are necessary and that ALL components are functioning properly.
 9. Make a complete operational check of ALL operating controls.
 - a. Microprocessor controller (computer) programs/selections...
 - 1) Each microprocessor controller (computer) has been preprogrammed by the factory with the most commonly used parameter (program) selections. If computer program changes are required, refer to the computer programming manual which was shipped with the dryer.

OPERATING INSTRUCTIONS

NOTE: Before attempting to start the dryer

make sure that the main door is closed and the lint drawer is securely in place.

1. To start the dryer:

a. Micropressor (Computer) Dryers

- 1) Display will read "FILL" (meaning no cycle in progress).
- 2) Press the letter on the keyboard (touchpad) corresponding to the cycle desired (i.e. Key "E")...
- a) The dryer will then start (rotate)
- 3) L.E.D. display will now show the Cycle In progress and Cycle status (i.e., "dr30" meaning that the dryer is in the drying cycle (dry mode for 30 minutes) and count down in minutes.

NOTE: Pressing touch pad key "A", "B", "C", "D", and "F" will also start the dryer. The six (6) preprogrammed drying cycles ("A" through "F") have been stored in the microprocessor (computer's) memory. Refer to the Comuter Programming Manual supplied with dryer for more specific operating information.

NOTE: The dryer can be stopped at any time by opening main door or by pressing the "CLEAR/STOP" key. To restart the dryer, press the "ENTER/START" key or preprogrammed cycle key (i.e., "E").

NOTE: Selection (setting) changes can be made at any time during the drying cycle by pressing the "CLEAR/STOP" key twice. the L.E.D. display will return to "FILL" at which time a new cycle selection can be made.

SHUTDOWN INSTRUCTIONS

If the dryer is to be shut down (taken out of service) for a period of time, the following **MUST BE** performed.

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.
2. Discontinue the gas suply.
 - a. **SHUT OFF** external gas supply shut off valve.
 - b. **SHUT OFF** internal gas supply shut off valve located at the gas valve train area.

MAINTENANCE CLEANING

A program and/or schedule should be established for periodic inspection, cleaning and removal of lint from various areas of the dryer, as well as throughout the duct work system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper air circulation. The accumulation of lint can restrict this air flow.

WARNING: LINT FROM MOST FABRICS IS HIGHLY COMBUSTIBLE. THE ACCUMULATION OF LINT CAN CREATE A POTENTIAL FIRE HAZARD.

WARNING: KEEP DRYER AREA CLEAR and FREE FROM COMBUSTIBLE MATERIALS, GASOLINE and OTHER FLAMMABLE VAPORS and LIQUIDS.

NOTE: Suggested time intervals shown are for average usage which is considered six (6) to eight (8) operational (running) hours per day.

**CLEAN LINT FROM LINT DRAWER/SCREEN
EVERY THIRD or FOURTH LOAD.**

NOTE: Frequency can best be determined at each location.

DAILY (beginning of each work shift)

Inspect lint screen and replace if torn.

WEEKLY

Clean the lint accumulation from lint chamber, thermostat, and microprocessor temperature sensor (sensor bracket) area.

WARNING: TO AVOID THE HAZARD OF ELECTRICAL SHOCK, DISCONNECT ELECTRICAL SUPPLY TO THE DRYER.

90 DAYS

Remove lint from around basket (tumbler), drive motors, and surrounding areas. Remove lint from gas valve burner area with a dusting brush or vacuum cleaner attachment.

NOTE: To prevent damage, avoid cleaning and/or touching ignitor/flame-probe assembly.

Remove lint accumulation from inside control box and at rear area behind control box.

Impellor (fan/blower) shaft bearings should be lubricated. Use a #3 grease or equivalent.

WARNING: THE ACCUMULATION OF LINT IN THE EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD.

WARNING: DO NOT OBSTRUCT THE FLOW OF COMBUSTION and VENTILATION AIR. CHECK CUSTOMER FURNISHED BACK DRAFT DAMPERS IN EXHAUST DUCT WORK. INSPECT and REMOVE ANY LINT ACCUMULATION WHICH CAN CAUSE DAMPER TO BIND OR STICK.

NOTE: A back draft damper that is sticking partially closed can result in slow drying and shutdown of the heat circuit safety switches or thermostats.

NOTE: When cleaning dryer cabinet(s), avoid using harsh abrasives. A product intended for the cleaning of appliances is recommended.

ADJUSTMENTS

7 Days After Installation and Every 6 Months Thereafter

Inspect bolts, nuts, screws (bearing set screws), non-permanent gas connections (unions, shut-off valves, orifices, and grounding connections). Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose V-belts when necessary. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (door switch, lint drawer switch, sail switch, burner and hi-limit thermostats).

LUBRICATION

Impellor (fan/blower) shaft bearings **should be** lubricated every three (3) months. Use a #3 grease or equivalent.

The motor bearings, idler bearings, and tumbler bearings are **permanently lubricated**. **NO LUBRICATION IS NECESSARY.**

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